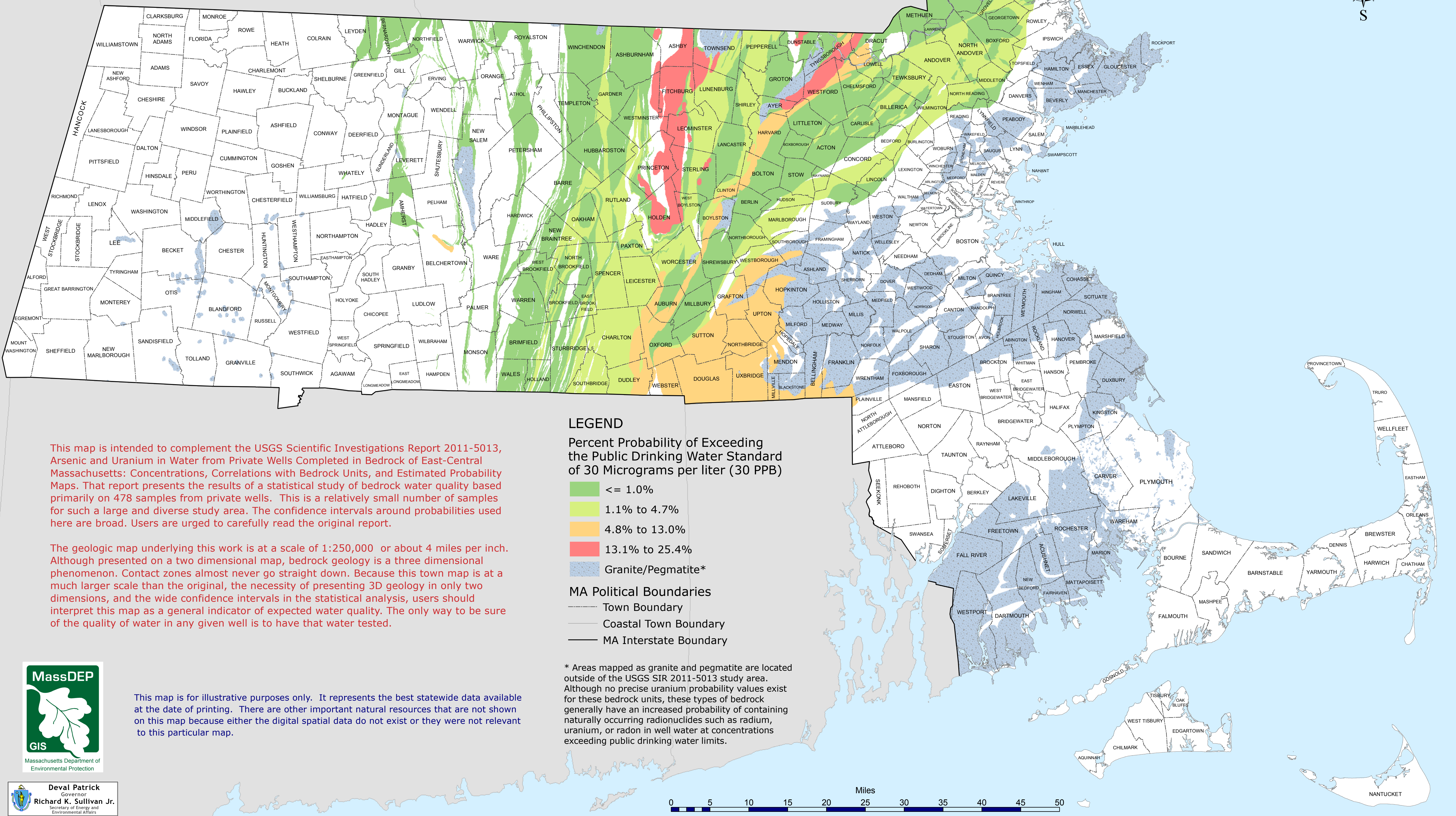
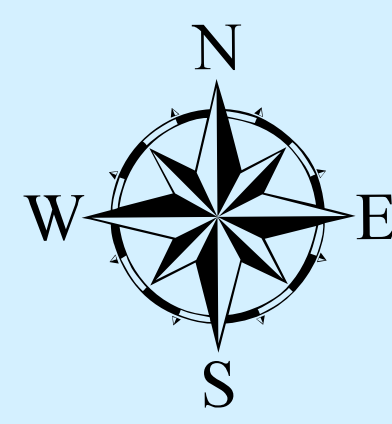


# Probability of Exceeding the Uranium Drinking Water Standard in Private Drinking Water Wells in Massachusetts



This map is intended to complement the USGS Scientific Investigations Report 2011-5013, Arsenic and Uranium in Water from Private Wells Completed in Bedrock of East-Central Massachusetts: Concentrations, Correlations with Bedrock Units, and Estimated Probability Maps. That report presents the results of a statistical study of bedrock water quality based primarily on 478 samples from private wells. This is a relatively small number of samples for such a large and diverse study area. The confidence intervals around probabilities used here are broad. Users are urged to carefully read the original report.

The geologic map underlying this work is at a scale of 1:250,000 or about 4 miles per inch. Although presented on a two dimensional map, bedrock geology is a three dimensional phenomenon. Contact zones almost never go straight down. Because this town map is at a much larger scale than the original, the necessity of presenting 3D geology in only two dimensions, and the wide confidence intervals in the statistical analysis, users should interpret this map as a general indicator of expected water quality. The only way to be sure of the quality of water in any given well is to have that water tested.

## LEGEND

Percent Probability of Exceeding  
the Public Drinking Water Standard  
of 30 Micrograms per liter (30 PPB)

- <= 1.0%
- 1.1% to 4.7%
- 4.8% to 13.0%
- 13.1% to 25.4%
- Granite/Pegmatite\*

- MA Political Boundaries
- Town Boundary
  - Coastal Town Boundary
  - MA Interstate Boundary

\* Areas mapped as granite and pegmatite are located outside of the USGS SIR 2011-5013 study area. Although no precise uranium probability values exist for these bedrock units, these types of bedrock generally have an increased probability of containing naturally occurring radionuclides such as radium, uranium, or radon in well water at concentrations exceeding public drinking water limits.



This map is for illustrative purposes only. It represents the best statewide data available at the date of printing. There are other important natural resources that are not shown on this map because either the digital spatial data do not exist or they were not relevant to this particular map.